Louisiana Department of Environmental Quality (LDEQ)
Office of Environmental Services

STATEMENT OF BASIS

Nelson Industrial Steam Company
Westlake, Calcasieu Parish, Louisiana
Agency Interest Number: 9142
Activity Number: PER20070001
Draft Permit 0520-00157-V1

I. APPLICANT:

Company:
Nelson Industrial Steam Company
3400 Houston River Road, Westlake, LA 70669

Facility:
Nelson Industrial Steam Company
3400 Houston River Road, Westlake, Calcasieu Parish, Louisiana
Approximate UTM coordinates are 472.10 kilometers East and 3350.00 kilometers North, Zone 15

II. FACILITY AND CURRENT PERMIT STATUS:

Nelson Industrial Steam Company, an existing steam and electric power generation facility, began operation in May 1992. The Nelson Industrial Steam Company currently operates under Permit No. 0520-00157-V0, issued February 2, 2006 and Permit No. PSD-LA-557, issued May 29, 1990.

III. PROPOSED PERMIT / PROJECT INFORMATION:

Proposed Permit

A permit application and Emission Inventory Questionnaire were submitted by Nelson Industrial Steam Company on March 5, 2007 requesting modification to the current Part 70 operating permit.

With this application, NISCO request an emissions CAP of 3519.36 lb/hr maximum hourly sulfur dioxide emissions from the two boilers during petroleum coke combustion and a particulate matter emissions flexibility CAP of 14 TPY from natural gas combustion during start-up of the two boilers. NISCO also proposes to change names/descriptions of point sources, delete point source C4, make clarifications to Limestone dryers Nos 1 and 2, add point sources for C1 and C2 startup, and update the emissions using the most current emission factors.

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Project Description

The Nelson Industrial Steam Company (NISCO) is a cogeneration plant producing steam and electricity. The steam and electricity is generated by two (2) circulating fluidized bed (CFB) boilers. Limestone is added to the boilers as a sorbent material for sulfur dioxide removal.

Unit 1A CFB boiler burns petroleum coke as its primary fuel and natural gas as its startup and backup fuel. Unit 1A exhausts out of one stack. A fabric filter, or baghouse, is used to control particulate emissions. Unit 2A CFB boiler burns petroleum coke as its primary fuel and natural gas as its startup and backup fuel. Unit 2A exhausts out of one stack. A fabric filter, or baghouse, is used to control particulate emissions. There are also two (2) cooling towers on site, in addition to a diesel engine and a number of fugitive dust sources.

Section 6 of the Permit Application, dated February 7, 2007, lists the permitted emission rate before and after the project (in tons per year) for each emission point in the permit. These changes are summarized in the Permitted Air Emissions Section.

Permitted Air Emissions

Estimated changes in permitted emissions in tons per year are as follows:

Pollutant	Before	After	Change
PM_{10}	178.87	182.58	+3.71
SO_2	8134.74	8134.24	-0.50
NO_X	5906.27	5900.36	-5.91
CO	985.47	984.68	-0.79
VOC	98.71	35.32	-63.39

Prevention of Significant Deterioration Applicability

The pollutants are not being increased by significant amounts by the project. Therefore, the proposed facility is not subject to the requirements of the PSD program.

This application was reviewed for compliance with 40 CFR 70, the Louisiana Air Quality Regulations, Prevention of Significant Deterioration (PSD), and New Source Performance Standards (NSPS). National Emission Standards for Hazardous Air Pollutants (NESHAP) do not apply.

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MACT Requirements

Nelson Industrial Steam Company is a minor source of toxic air pollutants (TAPs) pursuant to LAC 33:III.Chapter 51. Emissions from the combustion of natural gas, which is a Group 1 virgin fossil fuel, are exempt per LAC 33:III.5105.3.a.

The facility complies with the ambient air standards (AAS).

Air Modeling Analysis

Dispersion Model(s) Used: AERMOD

Pollutant	Time Period	Calculated Maximum Ground Level Concentration	Louisiana Air Quality Standard (NAAQS)
SO2	3hr	0.134 mg/ m^3	1300 mg/m^3
	24hr	0.043 mg/ m^3	365 mg/ m^3
	Annual	0.003 mg/ m^3	80 mg/ m^3

General Condition XVII Activities

The facility will comply with the applicable General Condition XVII Activities emissions as required by the operating permit rule. However, General Condition XVII Activities are not subject to testing, monitoring, reporting or recordkeeping requirements. For a list of approved General Condition XVII Activities, refer to Section VIII of the draft Part 70 permit.

Insignificant Activities

All Insignificant Activities are authorized under LAC 33:III.501.B.5. For a list of approved Insignificant Activities, refer to Section IX of the draft Part 70 permit.

Regulatory Analysis

The applicability of the appropriate regulations is straightforward and provided in the Facility Specific Requirements Section of the draft permit, or where provided, Tables 2, 3 and 4 of the draft permit. Similarly, the Monitoring, Reporting and Recordkeeping necessary to demonstrate compliance with the applicable terms, conditions and standards are provided in the Facility Specific Requirements Section of the draft permit, or where provided, Tables 2, 3 and 4 of the draft permit.

IV. Permit Shields

There is no permit shield.

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V. Periodic Monitoring

Compliance Assurance Monitoring

Federal regulation 40 CFR 64-Compliance Assurance Monitoring is not applicable to this facility.

VI. Applicability and Exemptions of Selected Subject Items

ID No:	Requirement	Notes
Facility Wide	Comprehensive Toxic Air Pollutant Emissions Control Program [LAC 33:III.Chapter 51]	EXEMPT. Emissions from the combustion of a Group 1 virgin fossil fuel are exempt. [LAC 33.III.5105.3.a]
EQT 4 & EQT 5	Emission Standards for Sulfur Dioxide [LAC 33:III.1503]	EXEMPT. Units emit less than 250 tons per year of SO2. [LAC 33:III.1503.C]
EQT 1 & EQT 2	National Emissions Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters [40 CFR 63, Subpart DDDDD]	DOES NOT APPLY. Boilers are fossil-fuel fired cogeneration units that supply more than one third of their potential electric capacity and more than 25 megawatts of electrical output to a utility power distribution system for sale. [40 CFR 63.7491(c)]
	Acid Rain Program [40 CFR 72]	DOES NOT APPLY. Facility is a qualifying facility that has, as of November 15, 1990, one or more qualifying power purchase commitments to sell at least 15 percent of its total planned net output capacity, and consists of one or more units designated by the owner or operator with total installed net output capacity not exceeding 130 percent of the total planned net output capacity. [40 CFR 72.6(b)(5)]

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VII. Streamlined Requirements

Unit or Plant Site	Programs Being Streamlined	Stream Applicability	Overall Most Stringent Program
Nelson Industrial Steam Company	None	-	-

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VIII. Glossary

Best Available Control Technologies (BACT) - An emissions limitation (including a visible emission standard) based on the maximum degree of reduction for each pollutant subject to regulation under this part which would be emitted from any proposed major stationary source or major modification which the administrative authority, on a case-by-case basis, taking into account energy, environmental, and economic impacts and other costs, determines is achievable for such source or modification through application of production processes or available methods, systems, and techniques, including fuel cleaning or treatment or innovative fuel combustion techniques for control of such pollutant.

Carbon Monoxide (CO) – A colorless, odorless gas which is an oxide of carbon.

Grandfathered Status- Those facilities that were under actual construction or operation as of June 19, 1969, the signature date of the original Clean Air Act. These facilities are not required to obtain a permit. Facilities that are subject to Part 70 (Title V) requirements lose grandfathered status and must apply for a permit.

Hydrogen Sulfide - A colorless inflammable gas having the characteristic odor of rotten eggs, and found in many mineral springs. It is produced by the action of acids on metallic sulfides, and is an important chemical reagent.

Maximum Achievable Control Technology (MACT) - The maximum degree of reduction in emissions of each air pollutant subject to LAC 33:III.Chapter 51 (including a prohibition on such emissions, where achievable) that the administrative authority, upon review of submitted MACT compliance plans and other relevant information and taking into consideration the cost of achieving such emission reduction, as well as any non-air-quality health and environmental impacts and energy requirements, determines is achievable through application of measures, processes, methods, systems, or techniques.

New Source Review (NSR) - A preconstruction review and permitting program applicable to new or modified major stationary sources of air pollutants regulated under the Clean Air Act (CAA). NSR is required by Parts C ("Prevention of Significant Deterioration of Air Quality") and D ("Nonattainment New Source Review").

Nitrogen Oxides (NO_x) - Compounds whose molecules consists of nitrogen and oxygen.

Nonattainment New Source Review (NNSR) - A New Source Review permitting program for major sources in geographic areas that do not meet the National Ambient Air Quality Standards (NAAQS) at 40 CFR Part 50. Nonattainment NSR is designed to ensure that emissions associated with new or modified sources will be regulated with the goal of improving ambient air quality.

Organic Compound - Any compound of carbon and another element. Examples: Methane (CH_4), Ethane (C_2H_6), Carbon Disulfide (CS_2)

Part 70 Operating Permit- Also referred to as a Title V permit, required for major sources as defined in 40 CFR 70 and LAC 33:III.507. Major sources include, but are not limited to, sources which have the potential to emit: $\geq$ 10 tons per year of any toxic air pollutant; $\geq$ 25 tons of total toxic air pollutants; and $\geq$ 100 tons per year of regulated pollutants (unless regulated solely under 112(r) of the Clean Air Act) (25 tons per year for sources in non-attainment parishes).

PM_{10}- Particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers as measured by the method in Title 40, Code of Federal Regulations, Part 50, Appendix J.

Potential to Emit (PTE) - The maximum capacity of a stationary source to emit any air pollutant under its physical and operational design.

Prevention of Significant Deterioration (PSD) – A New Source Review permitting program for major sources in geographic areas that meet the National Ambient Air Quality Standards (NAAQS) at 40 CFR Part 50. PSD requirements are designed to ensure that the air quality in attainment areas will not degrade.

Sulfur Dioxide (SO_2) – An oxide of sulphur.

Title V permit – See Part 70 Operating Permit.

Volatile Organic Compound (VOC) - Any organic compound which participates in atmospheric photochemical reactions; that is, any organic compound other than those which the administrator of the U.S. Environmental Protection Agency designates as having negligible photochemical reactivity.